Patterns of expression of factor VIII and von Willebrand factor by endothelial cell subsets in vivo.

Journal: Blood

Publication Year: 2016

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PubMed link: 27207787

Funding Grants: San Jose State University Stem Cell Internships for Laboratory-based Learning (SJSU SCILL), SCILL- Stem Cell Internships in Laboratory-based Learning

Public Summary:
Circulating factor VIII (FVIII) is derived from liver and from extrahepatic sources probably of endothelial origin, but the vascular sites of FVIII production remain unclear. Among organs profiled, only liver and lymph nodes (LNs) show abundant expression of F8 messenger RNA (mRNA). Transcriptomic profiling of subsets of stromal cells, including endothelial cells (ECs) from mouse LNs and other tissues, showed that F8 mRNA is expressed by lymphatic ECs (LECs) but not by capillary ECs (capECs), fibroblastic reticular cells, or hematopoietic cells. Among blood ECs profiled, F8 expression was seen only in fenestrated ECs (liver sinusoidal and renal glomerular ECs) and some high endothelial venules. In contrast, von Willebrand factor mRNA was expressed in capECs but not in LECs; it was coexpressed with F8 mRNA in postcapillary high endothelial venules. Purified LECs and liver sinusoidal ECs but not capECs from LNs secrete active FVIII in culture, and human and mouse lymph contained substantial

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